

Frequently Asked Questions

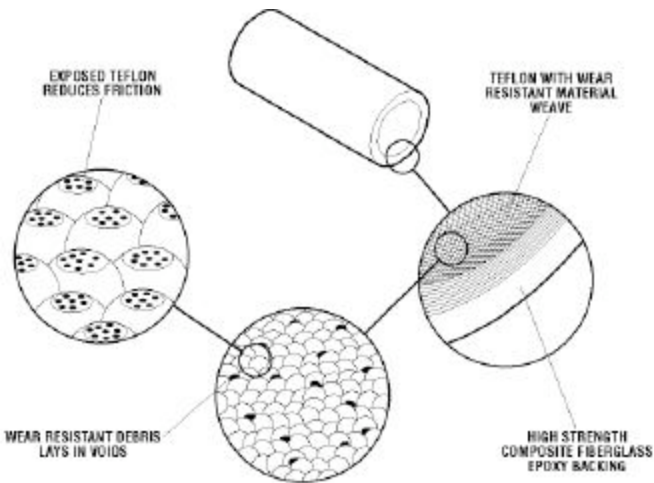
Q: “How Do PolyLube™ Bearings Compare To Spring Style Steel Bushings?”

A: When comparing PolyLube Fiber & MRP bearings to hardened spring bushings, four primary design improvements for the PolyLube product should be noted:

1. Significantly Improved Frictional Response.
2. Extended Bearing Life Through Improvement in Bearing Embeddability.
3. Elimination of Bearing Corrosion Issues.
4. Inherently Self-Lubricating

Improved Frictional Response:

The majority of hardened steel spring bushings are manufactured from a chrome-vanadium spring steel. While known for its hardness, the chrome-vanadium steel has no meaningful frictional properties when compared to a PolyLube bearing utilizing high-tenacity PTFE mono-filaments on the wear surface. The differences in frictional response between a spring steel bushing and the PolyLube bearing can be most easily conceptualized when thinking about the potential for intimate shaft contact: which bearing material will provide the best frictional response? The one relying on a hard steel surface or the one with inherently lubricious, high load capacity PTFE mono-filaments?



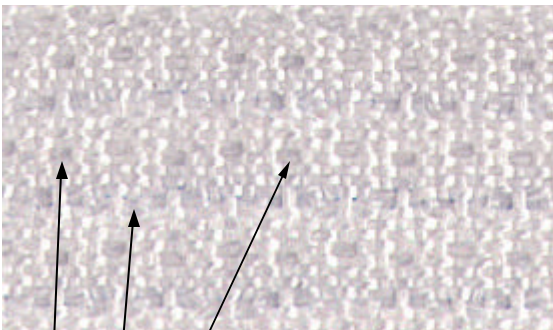
Extended Bearing Wear Through Improved Bearing Embeddability:

When looking at potential applications within the agriculture and construction equipment industry, the issue of bearing wear and premature bearing failure due to contamination is of prime importance. Spring

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 SELF-LUBRICATING BEARINGS	 THRUST WASHERS	 PNEUMATIC CYLINDER TUBING	 TUBING AND RODS
 PULTRUDED SHAPES	 INSULATIVE MATERIALS	 MEDICAL COMPOSITES	 CONTINUOUS FIBER THERMOPLASTICS
			

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Steel bushings handle this problem by using external seals in the bearing assembly and by requiring regular grease purges. PolyLube bearings rely on engineered pockets in the bearing wear surface which can handle the ingestion of particulate contamination. The pin shown on the right side was from a skid steer loader using spring steel bushings and grease. The same bearing location, using a PolyLube Fiber bearing, had no pin damage (the PolyLube pin was put back after 500 hours of testing).



*PolyLube journal bearing liners employ a proprietary liner architecture that have engineered “pockets” that allow for the ingestion of contamination—regardless of the type of contamination in question. In the case of dirt, the dirt is quickly removed from the PTFE filaments and embed themselves into the pockets, allowing the bearing to continue functioning. This is a **unique feature** to the PolyLube Fiber and MRP family.*

Elimination of Bearing Corrosion Issues

By going from a metallic bearing material to a high strength corrosion resistant bearing material, the potential for galvanic reactions causing pin seizures is eliminated. The elimination of a metal bearing creates the potential for bearing designs to extend life through the reduction in failures related to rain creating rust and shaft damage.

Inherently Self-Lubricating

Perhaps the most obvious performance enhancement is that PolyLube bearings completely eliminate the need for secondary lubrication systems. This means a lower cost of ownership due to elimination of grease fittings, grease delivery systems (grease piping) and maintenance costs related to lubrication

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							POLYGON